

WHAT IS CLAIMED IS:

1. A constant voltage source comprising:

a constant voltage supplying circuit comprising an operational amplifier for supplying an output voltage to a load and a feedback circuit for feeding back said output voltage to said operational amplifier;

a first inductance unit disposed between said constant voltage supplying circuit and said load; and

a first bypass capacitor of which one terminal is coupled between said first inductance unit and said load and the other terminal is coupled to a constant voltage unit.

2. A constant voltage source as claimed in claim 1, wherein inductance between said first bypass capacitor and said load is smaller than inductance between said constant voltage supplying circuit and said load.

3. A constant voltage source as claimed in claim 1 further comprising a first resistor coupled to said first inductance unit in parallel.

4. A constant voltage source as claimed in claim 1 further comprising a compensation circuit comprising a second resistor, a second inductance unit and a second bypass capacitor, one end of each of said second resistor, said second inductance unit and said second bypass capacitor being coupled to each other,

wherein the other end of said second resistor is coupled to an end of said first inductance unit near said constant voltage supplying circuit, the other end of said second inductance unit is coupled to a load side end of said first inductance unit and the other end of said second bypass capacitor is coupled to said constant voltage unit.

5. A constant voltage source as claimed in claim 4, wherein inductance between said second bypass capacitor and said load is larger than inductance between said first bypass capacitor and said load.

6. A constant voltage source as claimed in claim 4, wherein capacitance of said second bypass capacitor is larger than capacitance of said first bypass capacitor.

7. A constant voltage source as claimed in claim 4, wherein inductance of said second inductance unit is smaller than inductance of said first inductance unit.

8. A constant voltage source as claimed in claim 4, wherein at least one of inductances between respective said first and second bypass capacitors and said load is inductance of respective wiring lines between said first and second bypass capacitors and said load.

9. A constant voltage source as claimed in claim 4, wherein at least one of said first and second inductance units is wiring line.

10. A constant voltage source as claimed in claim 8 or claim 9, wherein inductances between respective said first and second bypass capacitors and said load are inductances of wiring lines between said first or second bypass capacitors and said load,
and said first and second inductance units are wiring lines.

11. A constant voltage source as claimed in claim 1 further comprising:

a first compensation circuit comprising a second resistor, a second inductance unit and a second bypass capacitor, one end of each of said second resistor, said second inductance unit and said second bypass capacitor being coupled to each other, wherein

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the other end of said second resistor is coupled to an end of said first inductance unit near said constant voltage supplying circuit, the other end of said second inductance unit is coupled to a load side end of said first inductance unit and the other end of said second bypass capacitor is coupled to said constant voltage unit; and

a second compensation circuit comprising a third resistor, a third inductance unit and a third bypass capacitor, one end of each of said third resistor, said third inductance unit and said third bypass capacitor being coupled to each other, wherein the other end of said third resistor is coupled to an end of said first inductance unit near said constant voltage supplying circuit, the other end of said third inductance unit is coupled to a load side end of said first inductance unit and the other end of said third bypass capacitor is coupled to said constant voltage unit.

12. A constant voltage source as claimed in claim 11, wherein inductance between said second bypass capacitor and said load is larger than inductance between said first bypass capacitor and said load, and

inductance between said third bypass capacitor and said load is larger than inductance between said second bypass capacitor and said load.

13. A constant voltage source as claimed in claim 11, wherein capacitance of said second capacitor is larger than capacitance of said first capacitor, and capacitance of said third capacitor is larger than capacitance of said second capacitor.

14. A constant voltage source as claimed in claim 11, wherein inductances of said second and third inductance units are smaller than inductance of said first inductance unit, and

inductance of said third inductance unit is larger than inductance of said second inductance unit.

load.

20. A constant voltage source circuit board as claimed in claim 19, wherein said first inductance unit is wiring line.

21. A constant voltage source circuit board as claimed in claim 19 further comprising:

a first compensation circuit comprising a second resistor, a second inductance unit and a second bypass capacitor, one end of each of said second resistor, said second inductance unit and said second bypass capacitor being coupled to each other, wherein the other end of said second resistor is coupled to an end of said first inductance unit near said constant voltage supplying circuit, the other end of said second inductance unit is coupled to a load side end of said first inductance unit and the other end of said second bypass capacitor is coupled to said constant voltage unit; and

said second bypass capacitor is disposed at a place farther than a place where said first bypass capacitor is disposed from said load.

22. A constant voltage source circuit board as claimed in claim 21, wherein at least one of inductances between respective said first and second bypass capacitors and said load is inductance of respective wiring lines between said first and second bypass capacitors and said load,

23. A constant voltage source circuit board as claimed in claim 21, wherein at least one of said first and second inductance units is wiring line.

Sub 37 24. A constant voltage source circuit board as claimed in claim 22 or claim 23, wherein inductances between respective said first and second bypass capacitors and said load are respectively

inductances of wiring lines between said first and second bypass capacitors and said load,

and said first and second inductance units are wiring lines.

25. A constant voltage source circuit board as claimed in claim 21, wherein capacitance of said second capacitor is larger than capacitance of said first capacitor.

26. A constant voltage source circuit board as claimed in claim 21, wherein inductance of said second inductance unit is smaller than inductance of said first inductance unit.

27. A constant voltage source circuit board as claimed in claim 21 further comprising:

a second compensation circuit comprising a third resistor, a third inductance unit and a third bypass capacitor, one end of each of said third resistor, said third inductance unit and said third bypass capacitor being coupled to each other,

wherein the other end of said third resistor is coupled to an end of said first inductance unit near said constant voltage supplying circuit, the other end of said third inductance unit is coupled to a load side end of said first inductance unit and the other end of said third bypass capacitor is coupled to said constant voltage unit, and

said third bypass capacitor is disposed at a place farther than a place where said second bypass capacitor is disposed from said load.

28. A constant voltage source circuit board as claimed in claim 27, wherein at least one of inductances between respective said first, second and third bypass capacitors and said load is inductance of respective wiring lines between said first, second and third bypass capacitors and said load.

29. A constant voltage source circuit board as claimed in claim 27, wherein at least one of said first, second and third inductance units is wiring line.

30. A constant voltage source circuit board as claimed in claim 27, wherein inductance between respective said first, second or third bypass capacitors and said load is inductance of respective wiring lines between said first, second or third bypass capacitors and said load, and

said first, second or third inductance units is wiring lines, respectively.

31. A constant voltage source circuit board as claimed in claim 27, wherein capacitance of said second capacitor is larger than capacitance of said first capacitor, and capacitance of said third capacitor is larger than capacitance of said second capacitor.

32. A constant voltage source circuit board as claimed in claim 27, wherein inductance of said third inductance unit is larger than inductance of said second inductance unit and smaller than inductance of said first inductance unit.

33. A constant voltage source circuit board as claimed in any one of claims 19, 21 and 27, wherein at least one of said first, second and third bypass capacitors is disposed around said load.

34. A constant voltage source circuit board as claimed in any one of claims 22 to 24, 28 and 30, wherein at least a portion of said wiring line is disposed around said load.

35. A constant voltage source circuit board as claimed in any one of claims 22 to 24, 28 and 30, wherein at least a portion of at least one of wiring lines between respective said first, second and third bypass capacitors and said load is piled over other wiring

line.

36. A constant voltage source circuit board as claimed in claim 35, wherein said one wiring line is insulated from said other wiring line.

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37. A constant voltage source circuit board as claimed in any one of claims 22 to 24, 28 and 30, wherein at least a portion of at least one of wiring lines between respective said first, second and third bypass capacitors and said load is formed to pile up over at least one of said first, second and third bypass capacitors.

38. A constant voltage source circuit board as claimed in claim 37, wherein said one wiring line is coupled to an electrode of said at least one of said first, second and third bypass capacitors.

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39. A constant voltage source circuit board as claimed in any one of claims 22 to 24, 28 and 30, wherein at least a portion of at least one of wiring lines between respective of said first, second and third bypass capacitors and said load is formed to pile up over said load.

40. A method for supplying a predetermined voltage to a load comprising steps of:

generating a voltage by using a constant voltage supplying circuit comprising an operational amplifier for generating said voltage supplied to said load and a feedback circuit for feeding back said output voltage from said operational amplifier to said operational amplifier;

supplying said voltage to said load through a first inductance unit disposed between said constant voltage supplying circuit and said load;

supplying a current to said load by using a first bypass capacitor of which one terminal is coupled between said first

inductance unit and said load and the other terminal is coupled to a constant voltage unit; and

charging said first bypass capacitor through said first inductance unit.

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